

Endangered Species Act - Section 7 Consultation  
and Essential Fish Habitat Consultation

BIOLOGICAL OPINION

McKay Creek Bridge  
US Highway 395, M.P. 5.72  
Umatilla County, Oregon

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,  
Northwest Region

Date Issued: November 7, 2000

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## I. BACKGROUND

On August 31, 2000, the National Marine Fisheries Service (NMFS) received a Biological Assessment (BA) and request from the Federal Highway Administration (FHWA) for Endangered Species Act (ESA) section 7 formal consultation for a bridge scour repair project on US Highway 395 at mile post 5.72 in Umatilla County, Oregon. The FHWA is funding the proposed repair, and is the lead agency for the project. Oregon Department of Transportation (ODOT) has designed the project and will administer the construction contract. This Biological Opinion (Opinion) is based on the information presented in the BA and the result of the consultation process.

The FHWA/ODOT has determined that the Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*) may occur within the project area. The MCR steelhead was listed under the ESA on March 25, 1999 (64 FR 14517). The proposed project is within MCR steelhead critical habitat, which was designated February 16, 2000 (65 FR 7764), and protective regulations were issued under Section 4(d) of the ESA on July 10, 2000 (65 FR 42423). It is also within the area of Essential Fish Habitat (EFH) for Mid-Columbia River spring-run chinook salmon (*Oncorhynchus tshawytscha*) which were determined to be not warranted for listing under the ESA on March 24, 1999 (64 FR 14308).

The FHWA/ODOT is proposing to repair scour damage to the bridge piers on the McKay Creek Bridge, No. 08050. McKay Creek is a tributary of the Umatilla River, which flows into the Columbia River. The McKay Creek Bridge is approximately 6 miles south of Pendleton, Oregon, on Highway 395, also known as the Pendleton-John Day Highway. Work will begin in the winter (November 2000) and is expected to be completed in 2001.

The effects determination was made using the methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The FHWA/ODOT determined that the proposed action was likely to adversely affect the MCR steelhead.

This Opinion reflects the results of the consultation process. The consultation process involved a site visit and meetings in the fall of 2000.

The objective of this Opinion is to determine whether the action to repair the McKay Creek bridge in Umatilla County is likely to jeopardize the continued existence of the MCR steelhead or destroy or adversely modify its critical habitat.

## II. PROPOSED ACTION

The FHWA/ODOT proposes to repair scour damage to the concrete bridge pier footings. The scour protection will be provided by placing riprap around all pier footings on the north and south bents of the bridge. Creek bottom material (gravel and cobbles) will be excavated from around the piers down to the elevation of the top of the footings (1,157.5 feet), which is 6.4 feet deep into the streambed where measured midway underneath the bridge. The excavation work will be done with a track hoe. Class

1000 riprap will be placed in the excavated trenches and on the embankments behind the piers up to the 1,171.5 feet elevation, which is up to the elevation of the bench on the north side of the creek, and ten feet below the substructure of the bridge deck. The riprap will be continuous from pier to pier on each bent of the bridge and up the embankment, and will extend upstream and downstream from the edges of the bridge approximately seven feet. From the piers towards the middle of the creek channel, the riprap will extend on each side of the creek approximately seven feet in towards the center of the channel. Approximately 41 feet of channel will remain between the riprap. The riprap will cover 448 sq yd total.

Because McKay Creek will be flowing at an estimated 20 cfs during the proposed work period of November and December 2000, and fish are likely to be present, the scour repair work will include isolation of the excavation areas. The contractor will be required to implement methods that ensure fish passage during the project and that isolate the excavation areas in order to reduce the risk of mortality to fish that might be present in the creek during the project. The areas around the bridge piers will be de-watered prior to construction, using an ODFW-approved method (a coffer dam) that excludes fish. Fish passage will be maintained throughout the duration of the in-water work utilizing a method approved by ODFW. Duration of the dewatering is expected to be from seven to 14 days.

The de-watering system that isolates the excavation trenches and access point will also prevent sediment from entering the flowing channel downstream during excavation and riprap placement. Sediment control and erosion control devices will be in place prior to access into the channel and excavation of trenches, and will be maintained throughout the duration of the project.

The excavated native creek bottom material (gravel and cobbles) will be stockpiled in the ODOT right-of-way in the northeast quadrant. Some of the excavated material, especially from the north side of the creek, is more granular, and it will be removed and not stockpiled. Straw wattle sediment barriers or a similar substitute will be placed between the stockpile area and the creek bank to prevent movement of surface flow from the stockpile to the creek. Following placement of the riprap, stockpiled native cobbles will be placed on top of the riprap in the channel to a depth of 1 foot in order to simulate a natural stream bed.

The in-water work, including construction of the isolation areas and temporary fish passage facilities, is estimated to take from ten to 20 work days. This work will be completed within the Oregon Department of Fish and Wildlife (ODFW) designated in-water work period of November 1, 2000 to March 31, 2001. The construction phase of the project will take about 30 days to complete. Riparian planting to mitigate for the effects of riprap will be done within seven days of the end of construction.

### **III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT**

The MCR steelhead Evolutionarily Significant Unit (ESU) was listed as threatened under the ESA by the NMFS on March 25, 1999 (64 FR 14517). Biological information concerning the MCR steelhead is found in Busby et al. (1996). The current status of the MCR steelhead, based upon their risk of

extinction, has not significantly improved since the species was listed. Within the Umatilla basin, returns of adult wild summer steelhead have declined from highs of 2,816 and 3,296 (1986 and 1987 brood years) to an average of 963 during 1995 - 1997. Hatchery steelhead, developed from wild Umatilla broodstock, were introduced to the Umatilla River basin in the late 1980s and an increasing percentage of the summer steelhead are of hatchery origin: 17% of the total adult returns in 1990 vs. 62% in 1997 (Chilcote, 1998).

Critical habitat was designated for the MCR steelhead on February 16, 2000 (65 FR 7764). Critical habitat for MCR steelhead encompasses the major Columbia River tributaries known to support this ESU, including the Deschutes, John Day, Klickitat, Umatilla, Walla Walla, and Yakima Rivers, as well as the Columbia River and estuary. Critical habitat consists of all waterways below long-standing, naturally impassable barriers, which includes the proposed project area. The adjacent riparian zone is also considered critical habitat. This zone is defined as the area that provides the following functions: shade, sediment, nutrient/chemical regulation, streambank stability, and input of large woody debris/organic matter. Protective regulations for MCR steelhead were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42423).

#### **IV. EVALUATING PROPOSED ACTIONS**

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of: (1) Defining the biological requirements and current status of the listed species; and (2) evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will destroy or adversely modify critical habitat it must identify any reasonable and prudent alternatives available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for juvenile and adult migration, spawning, and rearing of the MCR steelhead under the existing environmental baseline.

## **A. Biological Requirements**

The first step in the methods the NMFS uses for applying the ESA section 7(a)(2) to listed steelhead is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list MCR steelhead for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for MCR steelhead to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful adult and juvenile migration, spawning and rearing. MCR steelhead survival in the wild depends upon the proper functioning of certain ecosystem processes, including habitat formation and maintenance. Restoring functional habitats depends largely on allowing natural processes to increase their ecological function, while at the same time removing adverse impacts of current or past practices. In conducting analyses of habitat-altering actions, NMFS defines the biological requirement in terms of a concept called Properly Functioning Condition (PFC) and uses a "habitat approach" in its analysis (NMFS 1999). This analysis provides the necessary evaluation of essential elements of MCR steelhead critical habitat. The current status of the MCR steelhead, based upon their risk of extinction, has not significantly improved since the species was listed.

Summer steelhead occur at the McKay Creek bridge site all year. McKay Creek serves as cold water refuge and rearing habitat for steelhead. It is not known whether steelhead spawn in McKay Creek, although chinook salmon do. Since the creek is expected to be flowing during project activities, adult and juvenile steelhead will likely be present.

## **B. Environmental Baseline**

The current range-wide status of the identified ESU may be found in Busby et al. (1995, 1996). The identified action will occur within the range of MCR steelhead. The defined action area is the area that is directly and indirectly affected by the proposed action. The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, water quality and quantity (sediment and pollutant discharge), and the extent of riparian habitat

modifications. Indirect affects may occur throughout the watershed, where actions described in this Opinion lead to additional activities, or affect ecological functions, contributing to stream degradation. As such, the action area for the proposed activities include the immediate portions of the watershed containing the project and those areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this Opinion, the action area is defined as the streambed and riparian habitat of McKay Creek, upstream from the project site 100 feet, and downstream 500 feet.

Environmental baseline conditions within the action area were evaluated for the subject actions at the project site and watershed scales. The results of this evaluation, based on the “matrix of pathways and indicators” (MPI) described in "Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale” (NMFS 1996), follow. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species and assesses the constituent elements of critical habitat. An assessment of the essential features of MCR steelhead critical habitat is obtained by using the MPI process to evaluate whether aquatic habitat is properly functioning.

The project is within the McKay Creek watershed of the Umatilla River Basin. The mouth of McKay Creek is 50 miles up the Umatilla River from the Columbia River. The confluence of McKay Creek with the Umatilla River is located approximately 5 miles downstream of the bridge site. Land use near the bridge is residential and agriculture. The watershed above McKay Reservoir drains 186 square miles. McKay Dam blocks approximately 40 stream miles of formerly productive habitat which supported spring chinook and summer steelhead. The ODFW defined in-water work period for McKay Creek, including the project site, is November 1 to March 31 (ODFW 2000).

The McKay Creek channel at the bridge site is approximately 60 feet wide, with a gravel and cobble substrate, with some embeddedness caused by sedimentation. The riparian corridor at the project site consists of a few young black cottonwood (*Populus trichocarpa*) trees and an un-identified shrub on the cutbanks on the south side. Upstream and downstream of the bridge, the creek has little or no riparian vegetation. The top of the banks at the bridge is vegetated mostly with crested wheatgrass (*Agropyron cristatum*). Natural vegetation assemblages found in the McKay Creek watershed outside the coniferous forests at the headwaters include sagebrush-wheatgrass (*Artemisia tridentata/Agropyron spicatum*) and wheatgrass-fescue (*Agropyron spicatum-Festuca idahoensis*). Most of the land surface and dominant vegetation has been modified by grazing and agriculture.

Water flow in McKay Creek is controlled at the McKay Reservoir dam by the U.S. Bureau of Reclamation. Water is released from the McKay Reservoir for fish before (100-250 cfs) and after (100+ cfs) the irrigation season, which runs from April to late August. The creek has average flows of 150 – 500 cfs throughout the irrigation season. During the in-water work period of November 1 to March 31 McKay Creek will have an estimated flow of no more than 20 cfs. Due to a mediated settlement after extensive fish kills during previous years, when flow stopped mid-November in McKay Creek, water will be released all winter from the reservoir to protect fish present in the creek at the en

of September.

The lowest reach of McKay Creek, from its mouth to McKay Reservoir, which includes the project site, is currently listed on the Oregon Department of Environmental Quality (DEQ) 303(d) List of Water Quality Limited Water Bodies. This reach of McKay Creek is considered water quality limited year-round for fecal coliform bacteria as it affects water contact recreation; for high pH (> 8.5) during fall-winter-spring; and for summer water temperatures for fish rearing (DEQ 1999).

Water quality and fish habitat have been impacted due to past and ongoing land use practices. Major fish habitat constraints are altered flow regimes, streambank degradation, high water temperatures, poor instream cover, and insufficient riparian vegetation. Approximately 40% of the acreage in the Umatilla basin is range land, 13% is forested, and about 40% is in crops. Throughout the Umatilla basin, a major cause of degraded water quality and altered flow regimes is the appropriation of water for irrigation. Since 1992 with the passage by Congress of the Umatilla Basin Act, water allocation decisions have been made within the framework of a cooperative effort between the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), federal agencies, and irrigators to restore fisheries while still allowing the same levels of water appropriation for agriculture. This is done by diverting water from the Columbia River, storing it in an off-channel reservoir, and releasing it during the summer for irrigation. This practice is an attempt to leave more water in the river for fish. These water allocation issues are not a part of this consultation and are not addressed here.

Based on the best available information on the current status of MCR steelhead range-wide; the population status, trends, and genetics; and the poor environmental baseline conditions within the action area (as described in the BA), NMFS concludes that the biological requirements of the identified ESU within the action area are not currently being met. Numbers of MCR steelhead are substantially below historic numbers. Long-term trends are decreasing. The fish kills in McKay Creek may have reduced the numbers of that local population of steelhead. Degraded freshwater habitat conditions have also contributed to the decline of MCR steelhead.

Use of the NMFS Matrix of Pathways and Indicators (NMFS 1996) identified the following habitat indicators as either at risk or not properly functioning within the action area: water temperatures, turbidity/sediment, chemical contamination/nutrients, physical barriers, substrate, large woody debris, pool frequency and quality, off-channel habitat, refugia, streambank condition, floodplain connectivity, peak/base flows, drainage network increase, road density and location, disturbance history and regime, integration of species and habitat conditions, and riparian reserves. Actions that do not maintain or restore properly functioning aquatic habitat conditions have the potential to jeopardize the continued existence of MCR steelhead.

## **V. ANALYSIS OF EFFECTS**

### **A. Effects of Proposed Action**



The effects determination in this Opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document, *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The effects of proposed actions are expressed in terms of the expected effect (restore, maintain, or degrade) on aquatic habitat factors in the project area.

The proposed action has the potential to cause the following impacts to threatened MCR steelhead or designated critical habitat:

1. In-water work may cause direct adverse impacts to any steelhead that may be present near the work site.

The construction of isolation devices has the potential to directly harm steelhead due to handling or otherwise disturbing rearing juveniles. In addition, the excavation of trenches in the channel substrate around the piers, and placement of riprap in the trenches around the pier footings, will modify the existing gravel/cobble substrate. However, excavated creek bottom cobbles will be replaced back on top of the riprap in order to maintain a natural creek structure. Placement of riprap (new or additional placement) up the embankment may alter fish rearing and migration behavior. The potential exists for changes in channel conditions and dynamics following the placement of riprap.

Other adverse impacts include sedimentation and increased turbidity caused by the in-water work; this may result in minor siltation of downstream spawning gravels and temporary displacement of rearing juvenile salmonids.

2. Riparian function will be impaired, causing indirect adverse impacts to steelhead.

Placement of riprap will result in the permanent loss of 162 square yards of natural stream embankment. An estimated 8 cottonwood trees will be removed, as well as several trees and shrubs. This will result in a short-term (less than two years) loss of primary benthic production, loss of shade, and temporary bank instability.

The effects of these activities on MCR steelhead and aquatic habitat factors will be limited by implementing construction methods and approaches are included in project design and are intended to avoid or minimize impacts. These include:

1. All in-water work will be conducted during the ODFW in-water work period of November 1 to March 31. This will avoid impacts to migrating adult steelhead. In water-work will be done within a cofferdam or some similar isolation structure to minimize the potential for sediment entrainment.
2. Alteration and disturbance of stream banks and existing riparian vegetation will be minimized to the maximum extent possible. When working within the two-year floodplain, bank protection

material will be placed to maintain normal waterway configuration.

3. ODOT will minimize the amount of riprap used, and place only clean, non-erodible, upland angular rock of sufficient size to ensure long-term armoring. Within the two-year floodplain, larger riprap of class 350 size will be used judiciously so that the size of the active channel will not be constricted.
4. During excavation of the streambed, native materials will be stockpiled in an area outside of the two-year floodplain for later use in reconstructing the trenched area. Native cobbles will be placed on top of the riprap used to repair the scour areas around the bents of the bridge.
5. Riparian habitat will be protected by flagging the areas to be cleared prior to construction. Areas outside of the flagged zone will not be impacted.
6. Native vegetation will be maintained wherever possible. Shrubs and trees will be removed by clipping at ground level, and not grubbed out of the soil. Invasive exotic species will not be protected.
7. Riparian vegetation will be replaced at a rate of 1.5:1. All disturbed riparian areas in the project vicinity will be replanted with native vegetation. Approximately 120 black cottonwoods and 100 rooted stock willows will be planted within the action area shortly after completion of the project.

For the proposed action, the NMFS expects that the effects of the proposed project will tend to maintain each of the habitat elements over the long term. However, in the short term, a temporary increase in sediment entrainment and turbidity, and disturbance of riparian and in-stream habitat is expected. Fish may be killed or temporarily displaced during the in-water work (excavation of the trench and placement of riprap). The potential net effect from the proposed action, including proposed plantings, is expected to be the maintenance of functional steelhead habitat conditions.

## **B. Effects on Critical Habitat**

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for MCR steelhead consists of all waterways below naturally impassable barriers including the project area. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, input of large woody debris or organic matter, and others.

The proposed actions will affect critical habitat. In the short term, a temporary increase of sediments and turbidity and disturbance of riparian and in-stream habitat is expected. In the long term, however, there will be a net improvement to riparian habitat because willow and cottonwood plantings will

provide shading of the creek and improved bank stability. Consequently, NMFS does not expect that the net effect of this action will diminish the long-term value of the habitat for survival of MCR steelhead.

### **C. Cumulative Effects**

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area is defined as the streambed and riparian habitat of McKay Creek. The action area extends 100 feet upstream of the project site, and 500 feet downstream. The project actions consist of excavating a trench and placing riprap to repair scour damage around the bents of the bridge. NMFS is not aware of any significant change in non-Federal activities that are reasonably certain to occur within the action area. NMFS assumes that future private and State actions will continue at similar intensities as in recent years. Future FHWA/ODOT transportation projects are planned in the Umatilla River watershed. Each of these projects will be reviewed through separate section 7 consultations and are not considered cumulative effects.

## **VI. CONCLUSION**

NMFS has determined based on the available information, that the proposed action is expected to maintain properly functioning stream habitat conditions within the action area over the long term. As such, the proposed action covered in this Opinion is not likely to jeopardize the continued existence of MCR steelhead. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term adverse degradation of anadromous salmonid habitat due to sediment impacts, in-water construction, and habitat loss. These effects will be mitigated over the long-term through the implementation of proposed riparian plantings. Direct mortality of juvenile steelhead may occur during the in-water work period of project activities.

## **VII. REINITIATION OF CONSULTATION**

Consultation must be reinitiated if: 1) The amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; 2) new information reveals effects of the action may affect listed species in a way not previously considered; 3) the action is modified in a way that causes an effect on listed species that was not previously considered; or, 4) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To re-initiate consultation, ODOT must contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

## VIII. REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.

- Busby, P., S. Grabowski, R. Iwamoto, C. Mahnken, G. Matthews, M. Schiewe, T. Wainwright, R. Waples, J. Williams, C. Wingert, and R. Reisenbichler. 1995. Review of the status of steelhead (*Oncorhynchus mykiss*) from Washington, Idaho, Oregon, and California under the U.S. Endangered Species Act. 102 p. plus 3 appendices.
- Busby, P., T. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, and I.V. Lagomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon, and California.
- Chilcote, M. 1998. Conservation status of steelhead in Oregon. Oregon Department of Fish and Wildlife, Portland, Oregon. 108 p.
- DEQ 1999. DEQ's 1998 303d List of Water Quality Limited Streams & Oregon's Criteria Used for Listing Waterbodies. Oregon Department of Environmental Quality (DEQ), Portland, Or 1999. ([www.deq.state.or.us/wq/303dlist/303dpage.htm](http://www.deq.state.or.us/wq/303dlist/303dpage.htm)).
- DSL 1996. Essential Indigenous Salmonid Habitat, Designated Areas, (OAR 141-102-030). Oregon Division of State Lands. Portland, Or. 1996.
- NMFS 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.
- ODFW 2000. Oregon In-Water Work Timing Guidelines. Oregon Department of Fish and Wildlife Habitat Conservation Division, Portland, Oregon.

## IX. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring list species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

#### **A. Amount or Extent of the Take**

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of MCR steelhead because of detrimental effects from increased sediment levels (non-lethal) and the potential for direct incidental take during in-water work (lethal and non-lethal). Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on steelhead habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the biological assessment, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Opinion. The extent of the take is limited to within the area of project disturbance, extending 100 feet upstream and 500 feet downstream of the area of disturbance around the bridge.

#### **B. Reasonable and Prudent Measures**

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimizing take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species.

1. To minimize the amount and extent of incidental take from construction activities at McKay Creek bridge, measures shall be taken to limit the duration and extent of in-water work, and to time such work when the impacts to MCR steelhead are minimized.
2. To minimize the amount and extent of incidental take from construction activities in or near the creek, effective erosion and pollution control measures shall be developed and implemented throughout the area of disturbance. The measures shall minimize the movement of soils and sediment both into and within the river, will stabilize bare soil over both the short term and long term, and will prevent toxic substances such as oil and fuel from entering the riparian and aquatic areas.
3. To minimize the amount and extent of take from loss of in-stream habitat and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian and in-stream habitat, or where impacts are unavoidable, to replace or restore lost riparian and in-stream function.

4. To ensure effectiveness of implementation of the reasonable and prudent measures, all erosion control measures and plantings for site restoration shall be monitored and evaluated both during and following construction, and meet criteria as described below in the terms and conditions.

### **C. Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the ESA, FHWA/ODOT and their contractors must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. Implementation of the terms and conditions within this Opinion will further reduce the risk of impacts to fish and McKay Creek habitat. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1 (in-water work), above, FHWA/ODOT shall ensure that:
  - a. Passage shall be provided for both adult and juvenile forms of all salmonid species throughout the construction period. The FHWA/ODOT designs will ensure passage of fish as per ORS 498.268 and ORS 509.605 (Oregon's fish passage guidance). The worksites shall be isolated from the fish passage channels.
  - b. All work within the active channel of McKay Creek will be completed within ODFW's in-water work period (November 1 to March 31). Staging plans for temporary waterway diversions will be submitted and approved by ODOT Environmental Staff prior to proceeding with associated in-water activities. Any additional extensions of the in-water work period will first be approved by, and coordinated with, NMFS and ODFW.
  - c. All in-water work will be done within a cofferdam (made out of sandbags, sheet pilings, inflatable bags, etc.), or similar structure, to minimize the potential for sediment entrainment.
  - e. Alteration or disturbance of stream banks and existing riparian vegetation will be minimized. Where bank work is necessary, bank protection material shall be placed to maintain normal waterway configuration.
  - f. During ODOT project design, ODOT will work to minimize the amount of riprap used. Where riprap is necessary, only clean, non-erodible, upland angular rock of sufficient size for long-term armoring will be employed. In areas with riprap installation, large riprap (class 350 metric minimum) will be used preferentially within the two-year floodplain, where this riprap would come into contact with actively flowing water, and where using larger riprap would not constrict the size of the active channel (larger rock sizes create larger interstitial spaces for juvenile salmonids). Placement will be performed during the low water period, and will be done "in the dry" as much as

possible.

- g. During excavation, native streambed materials will be stockpiled out of the two-year floodplain for later reuse in the project. Once riprap has been placed in the trench, the native materials will be placed on top of the riprap within the stream channel.
  - h. Any water diversions or withdrawals done for the purpose of supplying water for construction or for riparian plantings will comply with all state and federal laws, particularly those that require a temporary water right and screening of intakes to prevent uptake of fish. The FHWA/ODOT shall be responsible for informing all contractors of their obligations to comply with existing, applicable state and federal statutes.
2. To implement reasonable and prudent measure #2 (erosion and pollution control), above, FHWA/ODOT shall ensure that:
- a. An Erosion Control Plan (ECP) will be prepared by ODOT or its contractor, and implemented by the Contractor. The ECP will outline how and to what specifications various erosion control devices will be installed to meet water quality standards, and will provide a specific inspection protocol and time response. Erosion control measures shall be sufficient to ensure compliance with applicable water quality standards and this Opinion. The ECP shall be maintained on site and shall be available for review upon request.
  - b. Effective erosion control measures shall be in-place at all times during the contract. Construction within the 5-year floodplain will not begin until all temporary erosion controls (e.g., straw bales, silt fences if warranted) are in place within the riparian area. Erosion control structures will be maintained throughout the life of the contract and until vegetation has been re-established.
    - i. Erosion control blankets or heavy duty matting (e.g., jute) may be used on steep unstable slopes in conjunction with plantings.
    - ii. Biobags, weed-free straw bales and loose straw may be used for temporary erosion control. Temporary erosion and sediment controls will be used on all exposed slopes during any hiatus in work on exposed slopes.
  - c. All exposed areas will be replanted with native vegetation. Erosion control planting, and placement of erosion control blankets and mats (if applicable) will be completed on all areas of bare soil within seven days of exposure within 150 feet of waterways, wetlands or other sensitive areas, and in all areas during the wet season (after October 1). All other areas will be stabilized within 14 days of exposure. Efforts will be made to cover exposed areas as soon as possible after exposure.
  - d. All erosion control devices will be inspected during construction to ensure that they are

working adequately. Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites. Work crews will be mobilized to make immediate repairs to the erosion controls, or to install erosion controls during working and off-hours. Should a control measure not function effectively, the control measure will be immediately repaired or replaced. Additional erosion controls will be installed as necessary.

- e. If soil erosion and sediment resulting from construction activities is not effectively controlled, the engineer will limit the amount of disturbed area to that which can be adequately controlled.
- f. Where feasible, sediment-laden water created by construction activity shall be filtered before it leaves the right-of-way or enters an aquatic resource area.
- g. A supply of erosion control materials (e.g., straw bales and clean straw mulch) will be kept on hand to cover sites that may become bare and to respond to sediment emergencies.
- h. All equipment that is used for in-stream work will be cleaned at a location that is outside of the five-year floodplain prior to entering the two-year floodplain. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment.
- i. Material removed during excavation shall only be placed in locations where it cannot enter sensitive aquatic habitat. Conservation of topsoil (removal, storage and reuse) will be employed.
- j. Measures will be taken to prevent construction debris from falling into any aquatic habitat. Any material that falls into a stream during construction operations will be removed in a manner that has a minimum impact on the streambed and water quality.
- k. Project actions will follow all provisions of the Clean Water Act (40 CFR Subchapter D) and DEQ's provisions for maintenance of water quality standards. Toxic substances shall not be introduced above natural background levels in waters of the State in amounts which may be harmful to aquatic life. Any turbidity caused by this project shall not exceed DEQ water quality standards.
- l. The Contractor will develop an adequate, site-specific Spill Prevention and Countermeasure or Pollution Control Plan (PCP), and is responsible for containment and removal of any toxicants released. The Contractor will be monitored by the ODOT Engineer to ensure compliance with this PCP. The PCP shall include the following:



- i. A site plan and narrative describing the methods of erosion/sediment control to be used to prevent erosion and sediment for contractor's operations related to disposal sites, borrow pit operations, haul roads, equipment storage sites, fueling operations and staging areas.
    - ii. Methods for confining and removing and disposing of excess construction materials, and measures for equipment washout facilities.
    - iii. A spill containment and control plan that includes: notification procedures; specific containment and clean up measures which will be available on site; proposed methods for disposal of spilled materials; and employee training for spill containment.
    - iv. Measures to be used to reduce and recycle hazardous and non-hazardous waste generated from the project, including the following: the types of materials, estimated quantity, storage methods, and disposal methods.
    - v. The person identified as the Erosion and Pollutant Control Manager (EPCM) shall also be responsible for the management of the contractor's PCP.
  - m. Areas for fuel storage, refueling and servicing of construction equipment and vehicles will be located at least 300 feet away from the two-year floodplain of any waterbody. Overnight storage of wheeled vehicles must occur at least 300 feet away from the two-year floodplain of any waterbody. Overnight storage of non-wheeled vehicles is allowed within the two-year floodplain during the in-water work window; however, to minimize the risk of fuel reaching the water, refueling of these vehicles must not occur after 1 pm (so the vehicles do not have full tanks overnight).
  - n. Hazmat booms will be installed in all aquatic systems where:
    - i. Significant in-water work will occur, or where significant work occurs within the 5-year floodplain of the system, or where sediment/toxicant spills are possible.
    - ii. The aquatic system can support a boom setup (i.e. the creek is large enough, low-moderate gradient ).
  - o. Hazmat booms will be maintained on-site in locations where there is potential for a toxic spill into aquatic systems. "Diapering" of vehicles to catch any toxicants (oils, greases, brake fluid) will be mandated when the vehicles have any potential to contribute toxic materials into aquatic systems.
  - p. No surface application of nitrogen fertilizer will be used within 50 feet of any aquatic resource.
3. To ensure implementation of reasonable and prudent measure #3 (riparian habitat protection), above, FHWA/ODOT shall ensure that:

- a. Boundaries of the vegetation clearing limits will be flagged by the project inspector. Ground will not be disturbed beyond the flagged boundary.
  - b. Alteration of native vegetation will be minimized. Where possible, native vegetation will be hand-clipped hand so that roots are left intact. This will reduce erosion while still allowing room to work. No protection will be made of invasive exotic species (e.g. Himalayan blackberry), although no chemical treatment of invasive species will be used.
  - c. Riparian understory and overstory vegetation removed will have a replacement rate of 1.5:1, at a minimum. Replacement will occur within the project vicinity. Approximately 120 black cottonwoods and 100 rooted stock willows will be planted within the action area shortly after completion of the project.
4. To ensure implementation of reasonable and prudent measures #4 (monitoring and evaluation), above, FHWA/ODOT shall ensure that:
- a. Erosion control measures as described above in 2(d) shall be monitored, and any changes or problems with the above terms and conditions reported promptly to the ODFW/ODOT liaison.
  - b. All significant riparian replant areas will be monitored to insure the following:
    - i. Finished grade slopes and elevations will perform the appropriate role for which they were designed.
    - ii. Plantings are performing correctly and have an adequate success rate (success rate depends on the planting density, but the goal is to have a functional riparian vegetation community).
  - c. Failed plantings and structures will be replaced, if replacement would potentially succeed. If not, plantings at other appropriate locations will be done.
  - d. A plant establishment period (3 year minimum) will be required for all riparian mitigation plantings. In extremely unstable or unproductive areas, ODOT may be released from the establishment period and develop a larger replanting area to compensate for this.
  - e. By December 31 of the year following the completion of construction, FHWA/ODOT shall submit to NMFS (Oregon Branch) a monitoring report with the results of the monitoring required in terms and conditions (4(a) to 4(c) above).

## **X. ESSENTIAL FISH HABITAT**

Public Law 104-267, the Sustainable Fisheries Act of 1996, amended the Magnuson-Stevens Fishery

Conservation and Management Act (Magnuson-Stevens Act) to establish new requirements for “Essential Fish Habitat” (EFH) descriptions in Federal fishery management plans and to require Federal agencies to consult with NMFS on activities that may adversely affect EFH. “Essential Fish Habitat” means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (Magnuson-Stevens Act §3). The Pacific Fisheries Management Council (PFMC) has designated EFH for federally-managed Pacific salmon fisheries (PFMC 1999). EFH includes those waters and substrate necessary to ensure the production needed to support a long-term sustainable fishery (i.e., properly functioning habitat conditions necessary for the long-term survival of the species through the full range of environmental variation).

The Magnuson-Stevens Act requires consultation for all actions that may adversely affect EFH, and it does not distinguish between actions in EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

The proposed designated salmon fishery EFH includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except above the impassable barriers identified by PFMC. Salmon EFH excludes areas upstream of longstanding naturally impassable barriers (i.e., natural waterfalls in existence for several hundred years). The proposed action area encompasses the Council-designated EFH for chinook salmon (*Onchorhynchus tshawytscha*).

The objective of this EFH consultation is to determine whether the proposed action may adversely affect EFH for chinook salmon. Another objective of this EFH consultation is to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse impacts to EFH resulting from the proposed action. Effects of the proposed action are described above. The conservation measures and special provisions described in this BA are considered adequate to prevent adverse effects on EFH for chinook salmon in McKay Creek.

## References

PFMC (Pacific Fishery Management Council). 1999. Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and Identification of Essential Fish Habitat, Adverse Impacts and Recommended Conservation Measures for Salmon. Portland, Oregon.

